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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,485	03/19/2008	Yoshimasa Sakamoto	082368-006500US	1941

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EXAMINER

MACFARLANE, STACEY NEE

ART UNIT	PAPER NUMBER
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1649

MAIL DATE	DELIVERY MODE
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06/30/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,485	Applicant(s) SAKAMOTO ET AL.	
	Examiner STACEY MACFARLANE	Art Unit 1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/22/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 1,3-17,20-22 and 26-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 18, 19, 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11/28/06;3/23/2007;4/10/2008;9/10/2009.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group VII and SEQ ID NO: 1 in the reply filed on April 22, 2010 is acknowledged. The traversal is on the ground(s) that the claims of Groups VII, VIII, IX, XIX, XX, and XXI share a special technical feature, namely, a dopaminergic neuron proliferative progenitor cell which is selected using a Lrp4 polynucleotide probe. This is not found persuasive because the polynucleotide probe encoding Lrp4/Cortin was well known in the art prior to filing and techniques for detection using such probe were, likewise, known in the art. Additionally, the claims that Applicant has asked to be examined together (claims 2 to 4, 12, 15-20, 23-25, and 39-44) are drawn to patentably distinct inventions that do not meet the requirements of 37 C.F.R. § 1.475 (a) and (b) as being drawn to only one of the following combinations of categories:

(1) A product and a process specially adapted for the manufacture of said product; or

(2) A product and process of use of said product; or

(3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or

(4) A process and an apparatus or means specifically designed for carrying out the said process; or

(5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

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Thus, the special technical feature that is common among the Groups does not make a contribution over the prior art.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1, 3-1, 20-22 and 26-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 22, 2010.

3. Claims 2, 18, 19 and 23-25 in so far as they read upon SEQ ID NO: 1, will be examined upon the merits in the instant Office action.

Priority

4. Acknowledgment is made of applicant's claim for foreign priority based on applications filed in Japan on October 29, 2004 and July 22, 2004. It is noted, however, that applicant has not filed a certified copy of the 2004-213743 application as required by 35 U.S.C. 119(b).

Claim Objections

5. Claim 2 is objected to as depending from Claim 1, which is non-elected. Appropriate correction is required.

Specification

6. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Specifically, paragraphs [0047], [0051], [0121] and [0131] contain either embedded hyperlink or executable code.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is indefinite in that it recites a method comprising the step of contacting a cell with a “polynucleotide which hybridizes under stringent conditions with a first polynucleotide consisting of” the instantly-elected SEQ ID NO: 1. While indefiniteness is decided in light of the specification, here, the specification [0050] provides only examples of conditions with varying stringency, but the claim is unclear absent a statement of the conditions under which the hybridization reaction is performed. Nucleic acids that will hybridize under some hybridization conditions will not necessarily hybridize under different conditions. The stringent hybridization conditions described in

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the disclosure are merely exemplary and do not define the conditions required by the claim. Without providing a precise set of hybridization conditions, in the claim or the specification, the metes and bounds of the claimed isolated nucleic acid molecule cannot be defined.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 2, 18 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Zhang et al. J Biol Chem, 289(19):19115-19126, January 28, 2005 as evidence by EMBL/GeneBank Accession No. AB013874, November 11, 1989.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim 2 is drawn to a method for selecting a dopaminergic progenitor cell comprising the sole step of contacting a cell sample with a polynucleotide probe of the elected SEQ ID NO: 1. Dependent claims 18, 19 recite the method further comprising contact with a second polynucleotide probe that hybridizes to SEQ ID NO: 1 under

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stringent conditions (claim 18); and wherein the second probe is at least 15 nucleotides (claim 19).

The Zhang et al. prior art teaches mouse embryonic stem cells were contacted with MOE430A chips and reverse transcription was carried out using PCR primers for Lrp4. Additionally, whole-mount in situ hybridization was carried out using these primers (page 19117). Table I, Group I, line 34, identifies Lrp4 as a serum-response factor (SRF) target gene, required for the terminal differentiation of stem cells (Abstract).

The GeneBank et al. reference is relied upon as evidence that the instantly-elected SEQ ID NO: 1 is mouse Lrp4 of the instant claims (see alignment below).

While the Zhang et al. prior art does not explicitly teach detection and/or selection of dopaminergic neuron progenitor cells, it fully anticipates the active steps required by the claims, namely contacting cells with Lrp4 polynucleotide probes, and since it fulfills the active steps of the claim, must inherently teach detection of dopaminergic progenitors. Thus, the method of the invention fails to distinguish over that of the prior art.

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Query Match          100.0%; Score 4864; DB 14; Length 4864;
  Best Local Similarity 100.0%;
  Matches 4864; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 CTAGTCCCCAGGCAGACGGTCCCTCACTCCTGTGGCTTGGCGTCGGAGACGCTGGCAGTC 60
      |||
Db      1 CTAGTCCCCAGGCAGACGGTCCCTCACTCCTGTGGCTTGGCGTCGGAGACGCTGGCAGTC 60

Qy     61 ATGGGCAGGGTTTCCTTCAGCGTTCGGGTCAGCTCCGTGCGGAGAGCCCGCTGCTCTTGT 120
      |||
Db     61 ATGGGCAGGGTTTCCTTCAGCGTTCGGGTCAGCTCCGTGCGGAGAGCCCGCTGCTCTTGT 120

Qy    121 CCTGGGCGATGCTACCTCTCCTGCAGAGTCCCTCCAACCACCGCCCTCCGTGCACTGAAC 180
      |||
Db    121 CCTGGGCGATGCTACCTCTCCTGCAGAGTCCCTCCAACCACCGCCCTCCGTGCACTGAAC 180

Qy    181 GGTCTTGGCTGCGCGGGGGTTCCGGGGGAGACTGCAGGTGGAGCCGTCCGACCCGGCCCC 240
      |||
Db    181 GGTCTTGGCTGCGCGGGGGTTCCGGGGGAGACTGCAGGTGGAGCCGTCCGACCCGGCCCC 240

Qy    241 TTGGGGACCCGTGGCTTCTCTCCGGGTCCAAGTTCAGGCTCCCGGCAGCTGGAAGGAT 300
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Db 241 TTGGGGACCCGTGGCTTCCTCTCCGGGTCCAAGTTCAGGCTCCCGGCAGCTGGAAGGAT 300

Qy 301 TGCTTTGGAGCCCCGCCTGCTCCAGACGTCTTGAGAGCAGACAGGAGCGTGGGCGAGGGC 360
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Qy 421 TGCATCTGCGCCCTCATCGTGCTGCTGGCCATCCTGCTGTCCTTTGTGGGAACATTAAAA 480
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Qy 601 CCCAGCCAGTCCACTCCAGCCTGGACACCGAGAGCTCCTTCTCCAGAGGACCAGAGTCAC 660
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Db 601 CCCAGCCAGTCCACTCCAGCCTGGACACCGAGAGCTCCTTCTCCAGAGGACCAGAGTCAC 660

Qy 661 AGGAACACAAAGCACCTGCATGAACATCACTCACAGCCAGTGTCAAATTCTGCCCTACCAC 720
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Qy 721 AGCACGTTGGCACCTCTCTTGCCAATTGTCAAAAACATGGACATGGAGAAGTTCCTCAAG 780
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Qy 901 TCTTTCTGTGAGGCTGCAAAAGAAGGATGCGAATCTGTCTGGGAATGGTGAACCTCCTCC 960
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Qy 961 TGGCCGGATTCCCTCAGATGCTCTCAGTTTAGGGACCACACTGAGACTAACAGCAGTGTC 1020
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Qy 1021 AGAAAGAGCTGCTTCTCACTGCAGCAGGAACATGGAAGCAATCACTCTGTGGAGGGGGC 1080
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Db 1021 AGAAAGAGCTGCTTCTCACTGCAGCAGGAACATGGAAGCAATCACTCTGTGGAGGGGGC 1080

Qy 1081 GAGAGCTTCTGTGTACCAGCGGGCTCTGCGTCCCCAAGAAGCTGCAGTGTAACGGCTAT 1140
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Db 1081 GAGAGCTTCTGTGTACCAGCGGGCTCTGCGTCCCCAAGAAGCTGCAGTGTAACGGCTAT 1140

Qy 1141 AATGACTGTGATGACTGGAGCGACGAGGCGCATTGCAACTGCAGCAAGGATCTGTTTCAC 1200
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Qy 1201 TGTGGCACAGGCAAGTGCCTCCACTACAGCCTCTTGTGTGATGGGTACGATGACTGTGGG 1260
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Qy 1321 GGGCGCTGCATTGCGGCTGAGTGGGTGTGCGATGGGGACCATGACTGTGTGGACAAGTCT 1380
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Qy 1381 GATGAGGTCAACTGCTCTTGTTCACAGCCAGGGCCTGGTGAATGCACAAGTGGACAGTGC 1440
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Qy 1441 ATCCCTAGCACCTTCCAGTGTGATGGGGACGAAGACTGTAAGGATGGGAGTGACGAGGAG 1500
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Qy 1621 AGTCAATGTGAGCCCATCACTTTGGAACCTCTGCATGAATTTGCTCTACAACCATACACAT 1680
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Qy 1861 TGTGAGCACTCCAAAGAGCGCTGTGAGTCTGTTCTGGGAATCGTTGGCCTGCAGTGGCCT 1920
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Qy 1921 GAAGACACCGACTGCAATCAATTTCCAGAGGAAAGTTTCCAGACAATCAAACCTGCCTCCTG 1980
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Db 1921 GAAGACACCGACTGCAATCAATTTCCAGAGGAAAGTTTCCAGACAATCAAACCTGCCTCCTG 1980
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Qy 2041 GTTCTGGGCTCCAGGAGATGTGACGGCCAGGCTGACTGTGACGACGACAGTGACGAGGAG 2100
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Qy 2281 TGGTGCACGGATGGGTCGACTGCTCAGACAGTTCTGATGAATGGGGCTGTGTGACCCTC 2340
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Db	3361		
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Db	3421		
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Db	3601		
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Db	3661		
Qy	3721	TTTTATTACTACTACAAGACACACACGGAGATACACGCTGACTGATCTCCAGTTCTGCT	3780
Db	3721		
Qy	3781	TAAGCCCAGTGGCTTAGGGGACACATTTCAGAACTGATCTTGAGACTGGCTTTTAATTT	3840
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Qy	3841	GTAGAAAGCCAAAGAGAATATATATGCTTTTATTATTTACTCTACTCTTCTAAATAACTTG	3900
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Db	3901		
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Db	3961		
Qy	4021	TTCTGTATTCAAATTAAGCTTAAAATCTCCACCAGATTGTTCCCGTTACTGGGAATTTT	4080
Db	4021		
Qy	4081	CGGAGTATGTCACTTAGATGACTGTGATGTCAAAGCCAGGTCAATCCTTGAGGAAATAA	4140
Db	4081		
Qy	4141	TTTGTTTGCTTATGTGGGAATGAATAAGAATCTTCCATTCCGCAAAACACACAAATTAA	4200
Db	4141		
Qy	4201	AAAGGAGAAAAAAATTAATAACATTCCACACCCAATTAATTCTGAAAAATTAGTCTGCT	4260
Db	4201		
Qy	4261	TGTATTCACCCAAAACAGAAAAGTTACAGAAATATATTTCAAAGTGCAGCAAAATGTTGC	4320

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Db      4261 TGTATTCACCCAAAACAGAAAAGTTACAGAAATATATTTCAAAGTGCAGCAAAATGTTGC 4320
Qy      4321 ATGGAGTATATAACATTTTGCATTTCCCCCTCATGATGTCTAACATCCGGTATTGCCAT 4380
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Db      4321 ATGGAGTATATAACATTTTGCATTTCCCCCTCATGATGTCTAACATCCGGTATTGCCAT 4380
Qy      4381 TTGCCTCATTGATAATTAATACTAAATTTTAAGGATGCTTTTAAGCACTGGGCCACTTTA 4440
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Db      4381 TTGCCTCATTGATAATTAATACTAAATTTTAAGGATGCTTTTAAGCACTGGGCCACTTTA 4440
Qy      4441 TGGGAATCAATTCCCAAAGCAATTAGTGGTTACAAGTATTTTTTCCCACTAAAAAGTTTC 4500
        |||
Db      4441 TGGGAATCAATTCCCAAAGCAATTAGTGGTTACAAGTATTTTTTCCCACTAAAAAGTTTC 4500
Qy      4501 AAAACACAAACCTTCATACTAAATTAATTAGCCAGACATGAACTATGTAACATGCAAAATG 4560
        |||
Db      4501 AAAACACAAACCTTCATACTAAATTAATTAGCCAGACATGAACTATGTAACATGCAAAATG 4560
Qy      4561 CCTTTTTGAACAAGTAGGATGCACTGTTAAACTTCACCAGCAACCAAACTGCCTCAGTAT 4620
        |||
Db      4561 CCTTTTTGAACAAGTAGGATGCACTGTTAAACTTCACCAGCAACCAAACTGCCTCAGTAT 4620
Qy      4621 TGCTTACAGGGACTACCTGCAATTTTATATGTGTATTTTGTACTCTTTTCTAGATAGTT 4680
        |||
Db      4621 TGCTTACAGGGACTACCTGCAATTTTATATGTGTATTTTGTACTCTTTTCTAGATAGTT 4680
Qy      4681 CAAATGCAAAACATTTGTTTCAACCCCTATTCTCCATGTTGTTTACCTCTTGTCTGGAAT 4740
        |||
Db      4681 CAAATGCAAAACATTTGTTTCAACCCCTATTCTCCATGTTGTTTACCTCTTGTCTGGAAT 4740
Qy      4741 TTGTTACAAAGTGTGTGTAGCAAAATGATTGTACTGCGGTCAGGACTATATGAAGGTTTAG 4800
        |||
Db      4741 TTGTTACAAAGTGTGTGTAGCAAAATGATTGTACTGCGGTCAGGACTATATGAAGGTTTAG 4800
Qy      4801 GACCATCGGGTCGGTTTTTGTATTAATTGTTGGCACATAATTAATAAAATATTTTATAGCAT 4860
        |||
Db      4801 GACCATCGGGTCGGTTTTTGTATTAATTGTTGGCACATAATTAATAAAATATTTTATAGCAT 4860
Qy      4861 TGGG 4864
        |||
Db      4861 TGGG 4864

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11. Claims 2, 18, and 19 23-25 are rejected under 35 U.S.C. 102(a) as being anticipated by Ono et al., WO 2004/065599, published August 5, 2004, English translation provided.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 2, 18, 19 and 23-25 are drawn to a method for selecting a dopaminergic progenitor cell comprising the sole step of contacting a cell sample with a polynucleotide

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probe of the elected SEQ ID NO: 1. further comprising contact with a second polynucleotide probe that hybridizes to SEQ ID NO: 1 under stringent conditions; wherein said second probe is at least 15 nucleotides; further comprising culturing the selected cell and selecting postmitotic cells.

The Ono prior art teaches methods for isolating specific genes at each mature phase from a precursor cell to a dopamine production neuron (Translation, page 2, claim 7). The reference specifically teaches a process in which a cell sample is contacted with a polypeptide that is identical to SEQ ID NO: 1 (SEQ ID NO: 1 of the reference), which encodes the murine Lrp4 polypeptide, further comprising culturing the precursor cell, and selecting cells by using a marker that indicates cell division has stopped (Translation, page 6). The reference reveals that polynucleotide probes that may be used can be double stranded cDNA or RNA and can include complementary base sequences (Id, page 7) that hybridize under stringent conditions that are outlines on page 26 of the translated disclosure. The polynucleotide may contain 15 continuous bases and discloses probes that are 15-100 bases and more preferably 15-35 bases (Id, page 9). Thus, the active step required by the method of the instant claims fail to distinguish over those of the methods disclosed within the prior art. Claims 2, 18, 19 and 23-25 are anticipated by the reference.

12. Claims 2, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Morser et al., WO 1999/64608, published December 16, 1999, filed June 4, 1999.

The Morser et al. prior art teaches methods comprising contacting cell and tissue samples with nucleic acid probes against the human corin allele (SEQ ID NO: 1 of the reference, page 13) which has 99.8 local base similarity to SEQ ID NO: 1 of the instant claims (see alignment below). The reference also teaches methods comprising nucleic acid probes that are complementary to and hybridize to the corin sequence under stringent conditions (pages 15-16). The reference provides guidance for oligonucleotide probes for methods comprising contacting cell samples (pages 19-20), And specifically teaches said oligonucleotide probes to be about 10-200, 12-100 or preferably 12-50, 12-25, 14-16, or at least about 15 nucleotides in length (page 20 lines 16-18). Given the considerable homology between the corin sequence and SEQ ID NO: 1 of the claims, and the breadth of the claims as encompassing any polynucleotide probe or a probe of at least 15 bases in length, then the method of the instant claims fails to distinguish over the methods taught by the prior art., Claims 2, 18 and 19 are anticipated by the reference.

```
Best Local Similarity 99.8%;
Matches 3537; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

Qy      11 GGCAGACGGTCCCTCACTCCTGTGGCTTGGCGTCGGAGACGCTGGCAGTCATGGGCAGGG 70
      |||
Db      3 GGCAGACGGTCCCTCACTCCTGTGGCTTGGCGTCGGAGACGCTGGCAGTCATGGGCAGGG 62

Qy      71 TTTCCTTCAGCGTTCGGGTCAGTCCGTGCGGAGAGCCCGCTGCTCTTGTCTTGGGCGAT 130
      |||
Db      63 TTTCCTTCAGCGTTCGGGTCAGTCCGTGCGGAGAGCCCGCTGCTCTTGTCTTGGGCGAT 122

Qy     131 GCTACCTCTCCTGCAGAGTCCCTCCAACCACCGCCCTCCGTGCACTGAACGGTCTTGGCT 190
      |||
Db     123 GCTACCTCTCCTGCAGAGTCCCTCCAACCACCGCCCTCCGTGCACTGAACGGTCTTGGCT 182

Qy     191 GCGCGGGGGTTCCGGGGGAGACTGCAGGTGGAGCCGTCCGACCCGGCCCTTGGGGACCC 250
      |||
Db     183 GCGCGGGGGTTCCGGGGGAGACTGCAGGTGGAGCCGTCCGACCCGGCCCTTGGGGACCC 242

Qy     251 GTGGCTTCCTCTCCGGGTCCAAGTTCAGGCTCCCGGCAGCTGGAAGGATTGCTTTGGAG 310
      |||
Db     243 GTGGCTTCCTCTCCGGGTCCAAGTTCAGGCTCCCGGCAGCTGGAAGGATTGCTTTGGAG 302

Qy     311 CCGCGCTGCTCCAGACGCTCTTGAGAGCAGACAGGAGCGTGGGCGAGGGCTGTCCTCAGA 370
      |||
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Db 303 CCCCgcctgctccagacgtcttgagagcagacaggagcgtgggCGAGGGCTGTCCTCAGA 362

Qy 371 AGCTGGTGACTGCTAACTTGCTGCGCTTCCTCCTGCTGGTGCTCATCCCCTGCATCTGCG 430
|||||

Db 363 AGCTGGTGACTGCTAACTTGCTGCGCTTCCTCCTGCTGGTGCTCATCCCCTGCATCTGCG 422

Qy 431 CCCTCATCGTGCTGCTGGCCATCCTGCTGTCCTTGTGGGAACATTAAAAAGGGTTTATT 490
|||||

Db 423 CCCTCATCGTGCTGCTGGCCATCCTGCTGTCCTTGTGGGAACATTAAAAAGGGTTTATT 482

Qy 491 TCAAATCAAATGACAGTGAACCTTTGGTCACTGATGGGGAAGCTCGAGTGCCTGGTGTTA 550
|||||

Db 483 TCAAATCAAATGACAGTGAACCTTTGGTCACTGATGGGGAAGCTCGAGTGCCTGGTGTTA 542

Qy 551 TTCCTGTAAATACAGTTTATTATGAGAACACAGGGGCGCCCTCTCTGCCCCCAGCCAGT 610
|||||

Db 543 TTCCTGTAAATACAGTTTATTATGAGAACACAGGGGCGCCCTCTCTGCCCCCAGCCAGT 602

Qy 611 CCACTCCAGCCTGGACACCGAGAGCTCCTTCTCCAGAGGACCAGAGTCACAGGAACACAA 670
|||||

Db 603 CCACTCCAGCCTGGACACCGAGAGCTCCTTCTCCAGAGGACCAGAGTCACAGGAACACAA 662

Qy 671 GCACCTGCATGAACATCACTCAGCCAGTGTCAAATTCTGCCCTACCACAGCACGTTGG 730
|||||

Db 663 GCACCTGCATGAACATCACTCAGCCAGTGTCAAATTCTGCCCTACCACAGCACGTTGG 722

Qy 731 CACCTCTCTTGCCAATTGTCAAAAACATGGACATGGAGAAGTTCCTCAAGTTCTTCACGT 790
|||||

Db 723 CACCTCTCTTGCCAATTGTCAAAAACATGGACATGGAGAAGTTCCTCAAGTTCTTCACGT 782

Qy 791 ACCTCCATCGCCTCAGTTGCTATCAACATATCCTGCTCTTCGGCTGTAGCCTCGCCTTCC 850
|||||

Db 783 ACCTCCATCGCCTCAGTTGCTATCAACATATCCTGCTCTTCGGCTGTAGCCTCGCCTTCC 842

Qy 851 CTGAGTGCGTTGTTGATGGCGATGACAGGCATGGTCTTCTACCCTGTAGATCTTTCTGTG 910
|||||

Db 843 CTGAGTGCGTTGTTGATGGCGATGACAGGCAAGTCTTCTACCCTGTAGATCTTTCTGTG 902

Qy 911 AGGCTGCAAAAGAAGGATGCGAATCTGTCTGGGAATGGTGAACCTCCTCTGGCCGGATT 970
|||||

Db 903 AGGCTGCTAAAGAAGGATGCGAATCTGTCTGGGAATGGTGAACCTCCTCTGGCCGGATT 962

Qy 971 CCCTCAGATGCTCTCAGTTTAGGGACCACACTGAGACTAACAGCAGTGTGAGAAAGAGCT 1030
|||||

Db 963 CCCTCAGATGCTCTCAGTTTAGGGACCACACTGAGACTAACAGCAGTGTGAGAAAGAGCT 1022

Qy 1031 GCTTCTCACTGCAGCAGGAACATGAAAGCAATCACTCTGTGGAGGGGCGAGAGCTTCC 1090
|||||

Db 1023 GCTTCTCACTGCAGCAGGAACATGAAAGCAATCACTCTGTGGAGGGGCGAGAGCTTCC 1082

Qy 1091 TGTGTACCAGCGGGCTCTGCGTCCCCAAGAAGCTGCAGTGTAACGGCTATAATGACTGTG 1150
|||||

Db 1083 TGTGTACCAGCGGGCTCTGCGTCCCCAAGAAGCTGCAGTGTAACGGCTATAATGACTGTG 1142

Qy 1151 ATGACTGGAGCGACGAGGCGCATTGCAACTGCAGCAAGGATCTGTTTCACTGTGGCACAG 1210
|||||

Db 1143 ATGACTGGAGCGACGAGGCGCATTGCAACTGCAGCAAGGATCTGTTTCACTGTGGCACAG 1202

Qy 1211 GCAAGTGCCTCCACTACAGCCTCTTGTGTGATGGGTACGATGACTGTGGGGACCCGAGTG 1270
|||||

Db 1203 GCAAGTGCCTCCATTACAGCCTCTTGTGTGATGGGTACGATGACTGTGGGGACCTGAGTG 1262

Qy 1271 ACGAGCAAAACTGTGATTGTAATCTCACAAAAGAGCATCGCTGTGGAGATGGGCGCTGCA 1330
|||||

Db 1263 ACGAGCAAAACTGTGATTGTAATCTCACAAAAGAGCATCGCTGTGGAGATGGGCGCTGCA 1322

Qy 1331 TTGCGGCTGAGTGGGTGTGCGATGGGGACCATGACTGTGTGGACAAGTCTGATGAGGTCA 1390

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|||||
Db 1323 TTGCGGCTGAGTGGGTGTGCGATGGGGACCATGACTGTGTGGACAAGTCTGATGAGGTCA 1382
Qy 1391 ACTGCTCTTGTCACAGCCAGGGCCTGGTGGAAATGCACAAGTGGACAGTGCATCCCTAGCA 1450
|||||
Db 1383 ACTGCTCTTGTCACAGCCAGGGCCTGGTGGAAATGCAGAAGTGGACAGTGCATCCCTAGCA 1442
Qy 1451 CCTTCCAGTGTGATGGGGACGAAGACTGTAAGGATGGGAGTGACGAGGAGAAGTGCAGTG 1510
|||||
Db 1443 CCTTCCAGTGTGATGGGGACGAAGACTGTAAGGATGGGAGTGACGAGGAGAAGTGCAGTG 1502
Qy 1511 ACAGTCAGACGCCATGTCCAGAAGGAGAACAGGGATGCTTTGGCAGTTCTGCGTCGAAT 1570
|||||
Db 1503 ACAGTCAGACGCCATGTCCAGAAGGAGAACAGGGATGCCTTGGCAGTTCTGCGTCGAAT 1562
Qy 1571 CCTGTGCTGGTAGCTCTCTGTGTGACTCAGACAGCAGCCTGAGTAACTGCAGTCAATGTG 1630
|||||
Db 1563 CCTGTGCTGGTAGCTCTCTGTGTGACTCAGACAGCAGCCTGAGTAACTGCAGTCAATGTG 1622
Qy 1631 AGCCCATCACTTTTGGAACTCTGCATGAATTTGCTCTACAACCATACACATTATCCAAATT 1690
|||||
Db 1623 AGCCCATCACTTTTGGAACTCTGCATGAATTTGCCCTACAACCATACACATTATCCAAATT 1682
Qy 1691 ACCTTGGCCACAGAAGTCAAAGGAAGCGTCCATCAGCTGGGAGTCATCCCTTTTCCCTG 1750
|||||
Db 1683 ACCTTGGCCACAGAAGTCAAAGGAAGCGTCCATCAGCTGGGAGTCATCCCTTTTCCCTG 1742
Qy 1751 CCCTGTACAAACCAACTGTTACAAATACCTCATGTTTTTCGCTGCACCATTTTGGTTC 1810
|||||
Db 1743 CCCTGTACAAACCAACTGTTACAAATACCTCATGTTTTTCGCTGCACCATTTTGGTTC 1802
Qy 1811 CAAAGTGTGATGTGAATACAGGACAACGCATCCCGCCTTGACAGACTCCTGTGTGAGCACT 1870
|||||
Db 1803 CAAAGTGTGATGTGAATACAGGACAACGCATCCCGCCTTGACAGACTCCTGTGTGAGCACT 1862
Qy 1871 CCAAAGAGCGCTGTGAGTCTGTTCTGGGAATCGTTGGCCTGCAGTGGCCTGAAGACACCG 1930
|||||
Db 1863 CCAAAGAGCGCTGTGAGTCTGTTCTGGGAATCGTTGGCCTGCAGTGGCCTGAAGACACCG 1922
Qy 1931 ACTGCAATCAATTTCCAGAGGAAAGTTTCCAGACAATCAAAGTGCCTCCTGCCCAATGAAG 1990
|||||
Db 1923 ACTGCAATCAATTTCCAGAGGAAAGTTTCCAGACAATCAAAGTGCCTCCTGCCCAATGAAG 1982
Qy 1991 ATGTGGAAGAAATGCTCTCCGAGTCACTTCAAATGCCGCTCGGGACGATGCGTTCTGGGCT 2050
|||||
Db 1983 ATGTGGAAGAAATGCTCTCCGAGTCACTTCAAATGCCGCTCGGGACGATGCGTTCTGGGCT 2042
Qy 2051 CCAGGAGATGTGACGGCCAGGCTGACTGTGACGACGACAGTGACGAGGAGAAGTGTGGTT 2110
|||||
Db 2043 CCAGGAGATGTGACGGCCAGGCTGACTGTGACGACGACAGTGACGAGGAGAAGTGTGGTT 2102
Qy 2111 GTAAAGAGAGAGCTCTTTGGGAATGTCCATTTAATAAGCAATGTCTGAAGCATACATTAA 2170
|||||
Db 2103 GTAAAGAGAGAGCTCTTTGGGAATGTCCATTTAATAAGCAATGTCTGAAGCATACATTAA 2162
Qy 2171 TCTGCGATGGGTTTCCAGATTGTCCAGACAGTATGGATGAAAAAACTGCTCATTTTGCC 2230
|||||
Db 2163 TCTGCGATGGGTTTCCAGATTGTCCAGACAGTATGGATGAAAAAACTGCTCATTTTGCC 2222
Qy 2231 AAGACAATGAGCTGGAATGTGCCAACCATGAGTGTGTGCCGCGTGACCTTTGGTGCGACG 2290
|||||
Db 2223 AAGACAATGAGCTGGAATGTGCCAACCATGAGTGTGTGCCGCGTGACCTTTGGTGCGACG 2282
Qy 2291 GATGGGTCGACTGCTCAGACAGTTCTGATGAATGGGGCTGTGTGACCTCTCTAAAAATG 2350
|||||
Db 2283 GATGGGTCGACTGCTCAGACAGTTCTGATGAATGGGGCTGTGTGACCTCTCTAAAAATG 2342

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Qy 2351 GGAAGTCTCTCTCATTGCTGACTGTTACAAAATCTGCAAAGGAACACCACGTGTGTGCTG 2410
|||||
Db 2343 GGAAGTCTCTCTCATTGCTGACTGTTACAAAATCTGCAAAGGAACACCACGTGTGTGCTG 2402
|||||

Qy 2411 ACGGCTGGCGGGAGACGTTGAGTCAGCTGGCCTGCAAGCAGATGGGTTTAGGAGAACCGT 2470
|||||
Db 2403 ACGGCTGGCGGGAGACGTTGAGTCAGCTGGCCTGCAAGCAGATGGGTTTAGGAGAACCGT 2462
|||||

Qy 2471 CTGTGACCAAGCTGATCCCAGGACAGGAAGGCCAGCAGTGGCTGAGGTTGTACCCCAACT 2530
|||||
Db 2463 CTGTGACCAAGCTGATCCCAGGACAGGAAGGCCAGCAGTGGCTGAGGTTGTACCCCAACT 2522
|||||

Qy 2531 GGGAGAATCTCAATGGGAGCACCTTGCAAGGAGCTGCTGGTATACAGGCACTCCTGCCCAA 2590
|||||
Db 2523 GGGAGAATCTCAATGGGAGCACCTTGCAAGGAGCTGCTGGTATACAGGCACTCCTGCCCAA 2582
|||||

Qy 2591 GCAGAAAGTGAAGATTTCCCTTCTGTGCTCCAAGCAAGACTGTGGCCGCCGCCCTGCTGCCC 2650
|||||
Db 2583 GCAGAAAGTGAAGATTTCCCTTCTGTGCTCCAAGCAAGACTGTGGCCGCCGCCCTGCTGCCC 2642
|||||

Qy 2651 GAATGAACAAGAGGATCCTTGGGGGTCGGACTAGTCGTCCTGGGAGGTGGCCGTGGCAGT 2710
|||||
Db 2643 GAATGAACAAGAGGATCCTTGGGGGTCGGACTAGTCGTCCTGGGAGGTGGCCGTGGCAGT 2702
|||||

Qy 2711 GCTCTCTGCAGAGTGAACCCAGTGGACATATCTGTGGCTGTGTCTCATTGCCAAGAAGT 2770
|||||
Db 2703 GCTCTCTGCAGAGTGAACCCAGTGGACATATCTGTGGCTGTGTCTCATTGCCAAGAAGT 2762
|||||

Qy 2771 GGGTCTTGACAGTTGCCCATTTGCTTTGAAGGGAGAGAAGACGCTGATGTTTGAAAGTGG 2830
|||||
Db 2763 GGGTCTTGACAGTTGCCCATTTGCTTTGAAGGGAGAGAAGACGCTGATGTTTGAAAGTGG 2822
|||||

Qy 2831 TATTTGGCATAAACAACCTGGACCATCCATCAGGCTTCATGCAGACCCGCTTTGTGAAGA 2890
|||||
Db 2823 TATTTGGCATAAACAACCTGGACCATCCATCAGGCTTCATGCAGACCCGCTTTGTGAAGA 2882
|||||

Qy 2891 CCATCCTGCTACATCCCCGTTACAGTCGAGCAGTGGTAGACTATGATATCAGCGTGGTGG 2950
|||||
Db 2883 CCATCCTGCTACATCCCCGTTACAGTCGAGCAGTGGTAGACTATGATATCAGCGTGGTGG 2942
|||||

Qy 2951 AGCTGAGCGATGATATCAATGAGACAAGCTACGTCAGACCTGTCTGCCTACCCAGTCCGG 3010
|||||
Db 2943 AGCTGAGCGATGATATCAATGAGACAAGCTACGTCAGACCTGTCTGCCTACCCAGTCCGG 3002
|||||

Qy 3011 AGGAGTATCTAGAACCAGATACGTAAGTCTACATCACAGGCTGGGGCCACATGGGCAATA 3070
|||||
Db 3003 AGGAGTATCTAGAACCAGATACGTAAGTCTACATCACAGGCTGGGGCCACATGGGCAATA 3062
|||||

Qy 3071 AAATGCCCTTTAAGCTGCAGGAGGAGAGGTCCGCATTATCCCTCTGGAGCAGTGCCAGT 3130
|||||
Db 3063 AAATGCCCTTTAAGCTGCAGGAGGAGAGGTCCGCATTATCCCTCTGGAGCAGTGCCAGT 3122
|||||

Qy 3131 CCTATTTTGACATGAAGACCATCACCAATCGGATGATCTGTGCTGGCTATGAGTCTGGCA 3190
|||||
Db 3123 CCTATTTTGACATGAAGACCATCACCAATCGGATGATCTGTGCTGGCTATGAGTCTGGCA 3182
|||||

Qy 3191 CCGTGGACTCCTGCATGGGAGACAGCGGTGGGCCTCTGGTTTGTGAACGACCCGGAGGAC 3250
|||||
Db 3183 CCGTGGACTCCTGCATGGGAGACAGCGGTGGGCCTCTGGTTTGTGAACGACCCGGAGGAC 3242
|||||

Qy 3251 AGTGGACATTATTTGGTTTAACTTCATGGGGCTCCGTCTGCTTTTCCAAAGTTCTGGGAC 3310
|||||
Db 3243 AGTGGACATTATTTGGTTTAACTTCATGGGGCTCCGTCTGCTTTTCCAAAGTTCTGGGAC 3302
|||||

Qy 3311 CTGGAGTGTACAGCAATGTGTCTTACTTTGTGGGCTGGATTGAAAGACAAATATATATCC 3370
|||||
Db 3303 CTGGAGTGTACAGCAATGTGTCTTACTTTGTGGGCTGGATTGAAAGACAAATATATATCC 3362
|||||

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Qy      3371 AGACCTTTCTCCAAAAGAAATCCCAAGGATAATCAGAGACTTTGTGGGAAACCTACATG 3430
        |||
Db      3363 AGACCTTTCTCCAAAAGAAATCCCAAGGATAATCAGAGACTTTGTGGGAAACCTACATG 3422

Qy      3431 GAGAATGACCTCTGAAACAGAAGCTTGTCCTGCCAAGAGCTGTACGAACAGGCGTTTCA 3490
        |||
Db      3423 GAGAATGACCTCTGAAACAGAAGCTTGTCCTGCCAAGAGCTGTACGAACAGGCGTTTCA 3482

Qy      3491 CGGACAGGACGCTCAACATGCACCGCAAGATCTCTCCTGTTTGTGCTAGATGAGTTTAC 3550
        |||
Db      3483 CGGACAGGACGCTCAACATGCACCGCAAGATCTCTCCTGTTTGTGCTAGATGAGTTTAC 3542

Qy      3551 TCAGG 3555
        |||
Db      3543 TCAGG 3547
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Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

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double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 2, 18, 19 and 23-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of copending Application No. 12/110111. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the '111 Application read upon a method of selecting dopaminergic neuron progenitor cells comprising contacting a cell sample with a polynucleotide probe for Lpr4 and further comprising culturing said cells and selecting postmitotic cells using a postmitotic biomarker.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented, however, a Notice of Allowability has been mailed on May 27, 2010 but issue fees have not been paid.

Conclusion

15. No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on M-R 5:45 to 3:30, TELEWORK-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacey MacFarlane
Examiner
Art Unit 1649

/Daniel E Kolker/
Primary Examiner, Art Unit 1649
June 28, 2010